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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/574,659	04/04/2006	Giovanni Ferraro	R.306280	7902
2119 7590 10/30/2008 RONALD E. GREIGG GREIGG & GREIGG P.L.L.C. 1423 POWHATAN STREET, UNIT ONE ALEXANDRIA, VA 22314				
EXAMINER FOX, JOHN C				
ART UNIT 3753		PAPER NUMBER		
MAIL DATE 10/30/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/574,659

Applicant(s)

FERRARO ET AL.

Examiner

John Fox

Art Unit

3753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-42 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 29-42 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

This action is responsive to the communication filed October 6, 2008.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 29-30, 32-34, 39-41 are rejected under 35 U.S.C. 102(b) as being anticipated by Cerny.

Cerny shows a fuel injector with a plurality of inlet bores 120 leading to a portion 116 of an actuator chamber which comprises contiguous bores 116, 48, 36, 38, and 94, a cap 70, conical seat 72, and enlargement 46. The valve of Cerny is read as relating to high pressure in that such recitation is relative. The bores 120 are read as smaller than a hypothetical valve with one bore.

Applicant's arguments against Cerny have been fully considered but they are not persuasive. Applicant argues that the recited "actuator chamber" distinguishes over Cerny. However, the words in a pending claim are to be given their broadest reasonable interpretation consistent with the specification, see MPEP 2111. The specification and drawings describe a conical seat and a chamber extending therefrom and an actuator 30 comprising ram 31 located in the chamber. The disclosure does not specify that the chamber is a bore of uniform diameter nor does it specify where the stack of piezoelectric elements is located. The disclosure of "ram 31" suggests that the stack is located to the right of the ram and not shown in the drawings. As set forth above, the chamber of Cerny (116, 48, 36, 38, 94) responds perfectly to the recited actuator chamber, it being noted that the needle 50 is fairly read as a ram and is in the chamber of Cerny. Moreover, the bores 116, 48 extend from a conical seat 72 and contain the

needle or ram 50, which is all that is described in the specification as an "actuator chamber". Accordingly, the rejection is still seen to be proper and is maintained.

Applicant argues that Cerny does not show a "cable outlet". However, under §102 "the elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e. identity of terminology is not required", see MPEP 2131, last sentence. The Examiner is not aware of the phrase "cable outlet" as a term of art, the specification gives no definition for it, and the drawings show outlet 17 as a normal fluid outlet like any other valve. Thus, the adjectival recitation of "cable" does not distinguish over the fluid outlet 74 Cerny. Accordingly, the rejection is still seen to be proper and is maintained.

Applicant argues that inlet bores 120 do not lead to an actuator chamber, which is clearly erroneous as set out above since they lead to bore 116. Applicant further argues that bores 120 are not symmetrically located around the longitudinal axis of the actuator, which is also clearly erroneous, see Figure 5.

Claims 33 and 40 are, in the alternative, rejected under 35 U.S.C. 103(a) as being unpatentable over Cerny.

The sizing of the bores 120 to be each smaller than a theoretical single bore is considered to be an obvious matter of design choice in that it is readily apparent that such would maintain the design flow of the valve.

Claims 31 and 35-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cerny in view of Yoshida et al.

Cerny shows the claimed valve except for a central inlet. Yoshida et al shows a fuel injector with a central inlet 33. It would have been obvious for one of ordinary skill in the art at the time the invention was made to have used such a central inlet in the valve of Cerny in place of lateral inlet 60 under the rationale set forth in *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) that the simple substitution of one known element for another to obtain predictable results is obvious.

Applicant's arguments against Yoshida et al have been fully considered but they are not persuasive. Applicant argues that the inlet 33 is not along the longitudinal axis of the valve. However, the claims do not require the inlet to be along the longitudinal axis, they merely recite "the central axis". A diametral axis crosses the center of the valve and can be fairly termed a central axis. Figure 1 of Yoshida et al show the inlet 33 on a diametral axis. Accordingly, the rejection is still seen to be proper and will be maintained.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cerny in view of Figure 1 of the application.

Cerny teaches the claimed device except for a piezoelectric actuator. Figure 1 is disclosed as including a piezoelectric actuator. It would have been obvious for one of ordinary skill in the art at the time the invention was made to have used such a piezoelectric actuator in place of the solenoid of Cerny under the rationale set forth in *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727, 82 U.S.P.Q.2d 1385 (2007) that the simple substitution of one known element for another to obtain predictable results is obvious.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fox whose telephone number is 571-272-4912. The examiner can normally be reached on Monday-Saturday from 10am-6pm (Hoteling Program).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Fox/
Primary Examiner
Art Unit 3753